



# sanitation

Jessica S. Tisch  
Commissioner

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**Sarah Dolinar**

Director, SWM Environmental Compliance/Contracts

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Via Email

October 25, 2023

Denise Grattan, Div. of Environmental Permits  
NYS Dept. of Environmental Conservation, Region 2  
47-40 21<sup>st</sup> Street  
Long Island City, NY 11101

Re: NYSDEC Permit 2-6106-00002/00022 Ren 4 (Permit)  
Southwest Brooklyn Marine Transfer Station (MTS)  
New York City Department of Sanitation (DSNY)  
2022 Bulkhead Inspection Report

Dear Ms. Grattan:

On behalf of DSNY, this letter provides the 2022 Southwest Brooklyn MTS Bulkhead Inspection Report in compliance with Solid Waste Management Condition 24 of the above-referenced Permit. As required, the Report will be posted on the DSNY website within 7 days.

Please contact me with any questions.

Sincerely,

A handwritten signature in cursive script that reads "Sarah Dolinar".

Sarah Dolinar

Enclosure (1): 2022 Southwest Brooklyn MTS Bulkhead Inspection Report

c: S. Harte, J. Capo, J. Steinberg Albin, DSNY  
M. Assi, S. Samuel, NYSDEC  
A. Barna, Waste Management of New York, LLC

# Savin Engineers, P.C.

## MEMORANDUM

**To:** Anthony Barna Waste Management  
**From:** Chris Critelli Savin Engineers, P.C.  
**Cc:** Joseph Fiteni, P.E. Savin Engineers, P.C.  
**Date:** October 12, 2022  
**Re:** Southwest Brooklyn Marine Transfer Station - Bulkhead Fender System Inspection



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As directed by Waste Management, the existing bulkhead fender system at the Southwest Brooklyn Marine Transfer Station (SWBMTS) was inspected for any deficiencies that may compromise the integrity of the fender system. Transit Corp with Savin oversight performed the visual inspection of the fender system on Sunday, September 25<sup>th</sup>, 2022. This memorandum discusses the findings.

### **BACKGROUND**

The existing fender system is located on the South side of the SWBMTS and is constructed primarily out of steel and timber. The timber fender face boards are approximately 10'-5" long and are anchored to the steel whalers using 1-inch diameter galvanized steel bolts. The whalers are anchored to H-piles that are driven approximately 15-feet below the mudline. There are 20 individual fender units running east-west along the pier. The lower half of the fenders are continuously submerged.

### **INSPECTION**

All safety protocols were followed (i.e. all barges removed from pier, safety life vest on at all times for anyone standing on pier, etc.). Prior to entering the water, all breathing equipment and meters were tested. The crew consisted of divers, spotters, and camera/radio/equipment operators. Savin watched the inspection live and communicated through the radio all elements

the diver needed to inspect. Additionally, Savin performed a surface inspection of fender, H-piles, frames, chains and all other components that were above water.

## **FINDINGS**

There are twenty individual timber fenders that comprise the fender system at the SW Brooklyn Marine Transfer Station. Each timber fender is comprised of fifteen 10" x 12" boards that are 10'-5" tall. There are two HP12 x 84 piles that support each fender. The drawings of fender system numbers the piles from number 1 to 40. The drawing does not number each fender but for our purposes of this inspection we numbered the fenders from Fender No. 1 to No. 20, with Fender No. 1 being supported by piles P1 and P2 and so forth, proceeding from north to south.

The timbers are held in place by having been bolted to three horizontally oriented W12 x 106 steel whalers. Each individual timber was bolted to each whaler through the whalers upper and lower flanges. Additionally, each of the three whalers are bolted to each pile with four bolts through the offshore flange of the pile with two bolts to the north side of the pile's web and two bolts to the south side of the pile's web. The whalers are designated as upper, middle and lower. During the inspection only the lower whaler and bolts attaching the fender timbers was continuously submerged. At times the middle whaler was submerged but the upper whaler was always above water. This meant that the upper whaler could not be inspected and at times depending on the tidal elevation the middle whaler and bolts attaching the timber fender could not be inspected.

Each of the fenders is structurally strengthened with the use of tie rods arranged in an X pattern and a pair of chains also arranged in an X pattern. The chains and tie rods are above the water and observed by Savin Engineers. Both chains and rods were generally found to be in good condition.

The majority of timber showed no signs of deterioration or splitting. Similarly, the steel whalers and H-piles showed limited signs of rusting; however connections between Whalers and piles showed a 10% section loss. Generally, the galvanized bolts also appeared to be in good

condition; however, in many areas bolts were missing or loose in the connection between the rubber fender and H-piles.

<b>Results of Fender System Inspection</b>		
<b>Fender No. 1</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 1</b>	Coating still intact.
	<b>Pile 2</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
No issues reported.		
<b>Fender No. 2</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Deterioration observed to the northern most timber, Timber No. 14. Damage not occurred from impact. Remaining timber planks in good condition otherwise.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 3</b>	Coating still intact.
	<b>Pile 4</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
Minor rusting on top of H-Pile and around bolts. Steel cap plate on top of timber fender has 3 missing bolts and 8 bolts loose. Anchor bolts to fender base plate are loose; plate is pulled out 1.5".		

<b>Fender No. 3</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 5</b>	Coating still intact.
	<b>Pile 6</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
Minor rusting on top of H-Pile and around bolts. Steel cap plate on top of timber fender missing.		
<b>Fender No. 4</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 7</b>	Coating still intact.
	<b>Pile 8</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
Minor rusting on top of H-Pile and around bolts. Steel cap plate on top of timber fender is loose.		
<b>Fender No. 5</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.

	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 9</b>	Coating still intact.
	<b>Pile 10</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Fender base plate connection to concrete is loose. Bottom bolts need to be tightened.	
<b>Fender No. 6</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 11</b>	Coating still intact.
	<b>Pile 12</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Fender base plate connection to concrete is loose. Bolts need to be tightened.	
<b>Fender No. 7</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 13</b>	Coating still intact.
	<b>Pile 14</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	

	Minor rusting on top of H-Pile and around bolts. Steel cap plate on top of timber fender is loose. Fender base plate connection to concrete is loose. Bolts need to be tightened.	
<b>Fender No. 8</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 15</b>	Coating still intact.
	<b>Pile 16</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
	No issues reported.	
<b>Fender No. 9</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Crack in sheet 12 - 14 due to impact.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact; however bolts are loose.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 17</b>	Coating still intact.
	<b>Pile 18</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
Minor rusting on top of H-Pile and around bolts. H-Pile, fender and timbers are deformed as a result of an impact. Fender is cracked. Missing anchor bolts between fender and base plate.		
<b>Fender No. 10</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation. Timber sheet No. 9 is loose due to deterioration in the wood and loose bolt connection.

	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 19</b>	Coating still intact.
	<b>Pile 20</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Spall at the chamber bottom of the pile cap: approximately 8' L x 1'H x 3"D. No exposed rebar.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Missing anchor bolts between fender and base plate.	
<b>Fender No. 11</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bolts are loose at the bottom connection at Pile 22. Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 21</b>	Coating still intact.
	<b>Pile 22</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
		<b>SURFACE INSPECTION</b>
	Minor rusting on top of H-Pile and around bolts. Missing anchor bolts between fender and base plate.	
<b>Fender No. 12</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.



	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 23</b>	Coating still intact.
	<b>Pile 24</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Crack at the chamber bottom of the pile cap, near bottom Whaler: approximately 15' L x 1"H x 1"D.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Missing anchor bolts between fender and base plate.	
<b>Fender No. 13</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 25</b>	Coating still intact.
	<b>Pile 26</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
		<b>SURFACE INSPECTION</b>
	Minor rusting on top of H-Pile and around bolts. Anchor bolts between fender and base plate are corroded and fender no longer flush with concrete wall.	
<b>Fender No. 14</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 27</b>	Coating still intact.
	<b>Pile 28</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	

	Minor rusting on top of H-Pile and around bolts. Anchor bolts between fender and base plate are loose and fender no longer flush with concrete wall.	
Fender No. 15	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 29</b>	Coating still intact.
	<b>Pile 30</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Anchor bolts between fender and base plate are loose and fender no longer flush with concrete wall.	
Fender No. 16	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 31</b>	Coating still intact.
	<b>Pile 32</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Anchor bolts between fender and base plate are loose and fender no longer flush with concrete wall.	
Fender No. 17	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.

	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 33</b>	Coating still intact.
	<b>Pile 34</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Anchor bolts between fender and base plate are missing and fender no longer flush with concrete wall.	
<b>Fender No. 18</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 35</b>	Coating still intact.
	<b>Pile 36</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
		<b>SURFACE INSPECTION</b>
	Minor rusting on top of H-Pile and around bolts. Anchor bolts and washers between fender and base plate are missing and fender no longer flush with concrete wall. Gussets are corroded. Gussets also damaged due to chain grinding against it.	
<b>Fender No. 19</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bolts are loose at the bottom connection at Pile 38. Bottom bolts exhibiting 10% section loss, connections are still intact.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 37</b>	Coating still intact.

	<b>Pile 38</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
	<b>SURFACE INSPECTION</b>	
	Minor rusting on top of H-Pile and around bolts. Anchor bolts and washers between fender and base plate are missing and fender no longer flush with concrete wall.	
<b>Fender No. 20</b>	<b>UNDERWATER INSPECTION</b>	
	<b>Timber Condition</b>	Very good: no cracks, splits, checks or shakes. No marine borer infestation.
	<b>Timber to Whaler Connection</b>	Bottom bolts exhibiting 10% section loss, connections are still intact, no loose connections.
	<b>Whaler Condition</b>	Excellent. No pitting or corrosion.
	<b>Whaler to Pile Connection</b>	Bolts are loose at the bottom connection at Pile 40. Bottom bolts exhibiting 10% section loss, connections are still intact.
	<b>Tie Rods and Chain Bracing</b>	In place but above water.
	<b>Pile 39</b>	Coating still intact.
	<b>Pile 40</b>	Coating still intact.
	<b>Bulkhead Notes</b>	Concrete pile cap smooth and sound.
		<b>SURFACE INSPECTION</b>
	Minor rusting on top of H-Pile and around bolts. Anchor bolts and washers between fender and base plate are missing and fender no longer flush with concrete wall.	

### **RECOMMENDATIONS**

All locations where there are missing or corroded bolts should have new bolts installed; and areas where bolts are loose, bolts should be properly tightened. This includes connections of the fenders to the base plate, timber planks to the steel cap plate and walers to piles. Connection from the fenders and baseplates should be repaired so that they are flush with one another and the bulkhead. Damaged timber planks should be replaced. Missing steel cap plate at Fender No. 3 should be replaced. The concrete spall in the bulkhead at Fender No. 10 and cracking in the bulkhead at Fender No. 12, should be monitored for expansion. The damaged H-Pile at Fender No. 9 and the corresponding fender should be replaced.

# ATTACHMENT A

## PHOTOS

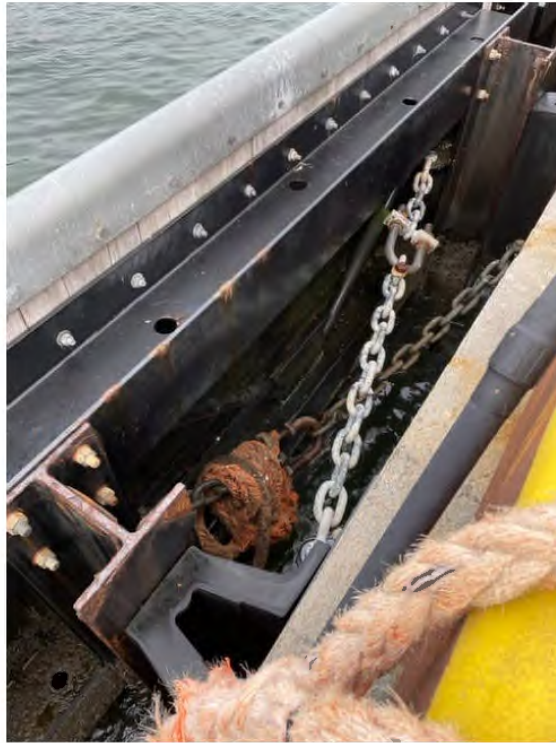


Photo No. 1 – General Conditions of Steel Frame, Piles and Bracing Chains



Photo No. 2 – General Conditions of Bracing Chains

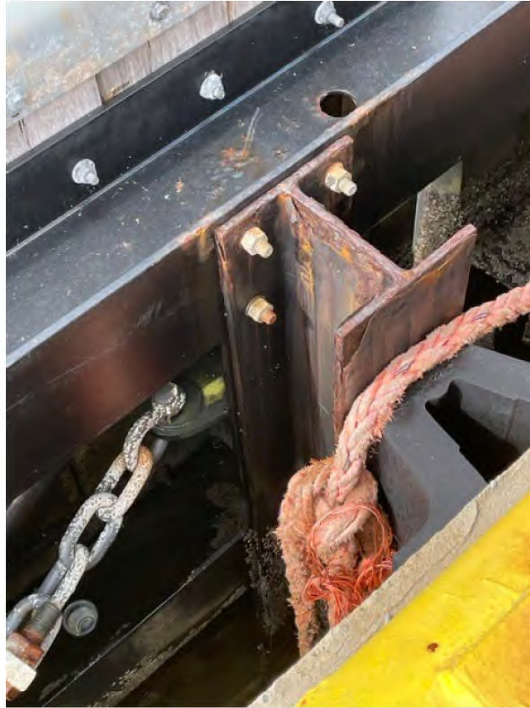


Photo No. 3 – General Conditions of H-Piles; minor corrosion throughout its length on the surface.



Photo No. 4 – Anchor Bolts from Fender to Base Plate are loose. Rubber Fender no longer flush with concrete wall. Typical from Fenders No. 13-20.



Photo No. 5 – H-Pile, Timbers and Deformed at Fender No. 9 as a result of Impact.



Photo No. 6 – Timber cracked at Fender No. 7 as result of impact.

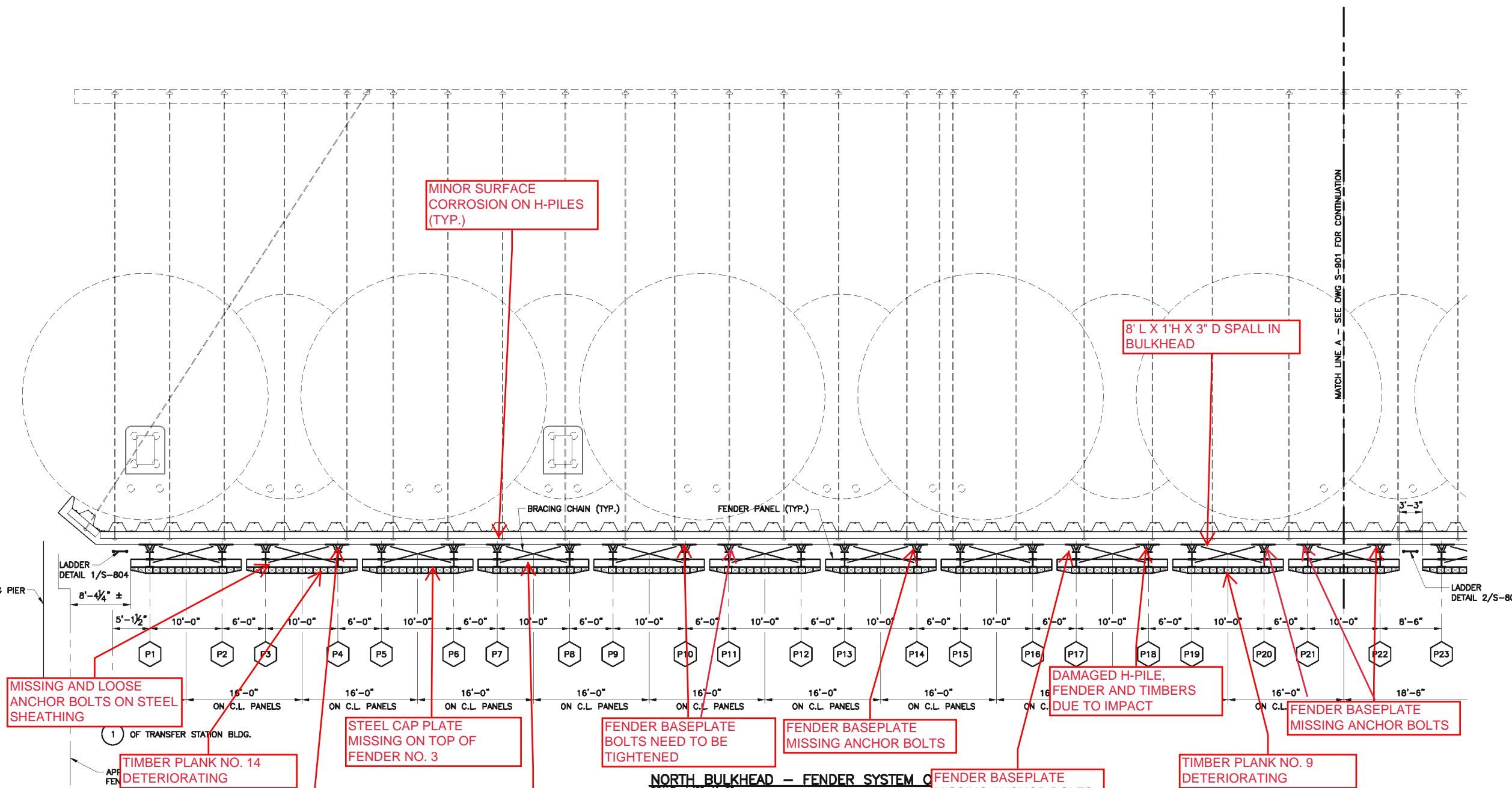
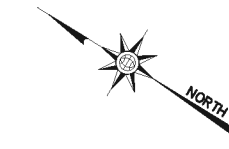




Photo No. 7 – Crack at concrete bulkhead spanning the width of Fender No. 12.

# ATTACHMENT B

DRAWING



**NORTH BULKHEAD - FENDER SYSTEM**  
SCALE: 1/8"=1'-0"

MISSING AND LOOSE ANCHOR BOLTS ON STEEL SHEATHING

TIMBER PLANK NO. 14 DETERIORATING

STEEL CAP PLATE MISSING ON TOP OF FENDER NO. 3

STEEL CAP PLATE IS LOOSE

FENDER BASEPLATE IS LOOSE

FENDER BASEPLATE BOLTS NEED TO BE TIGHTENED

FENDER BASEPLATE MISSING ANCHOR BOLTS

FENDER BASEPLATE MISSING ANCHOR BOLTS

DAMAGED H-PILE, FENDER AND TIMBERS DUE TO IMPACT

TIMBER PLANK NO. 9 DETERIORATING

FENDER BASEPLATE MISSING ANCHOR BOLTS

DSNYFS900\_10.dwg 01-10-13 15:46 SAVED: lizomof DH

**AECOM**  
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DESIGNED: JK  
DRAWN: BL  
CHECKED: JK

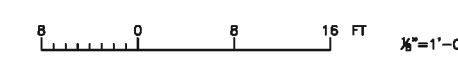
APPROVED:

NO.	DATE	APPD	REVISION
10	JAN 2013	JK	CONFORMED DRAWING
1	SEPT 2012	JK	ADDENDUM NO 2



FOR NEW YORK CITY  
DEPARTMENT OF SANITATION  
MARINE EXPORT OF SOLID WASTE  
SOUTHWEST BROOKLYN  
MARINE TRANSFER STATION

CONTRACT NO. 2  
STRUCTURAL  
FENDER SYSTEM PARTIAL PLAN - SHEET 1



**WARNING**  
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NYC DOB NO.

FILE NAME: DSNYFS900\_10  
DWG: **S-900.10**  
SHEET NO.: 330 OF 708  
DATE: JUNE 2012



RUBBER FENDERS FROM NO. 13 TO 20 ARE NOT FLUSH WITH BULKHEAD. ANCHOR BOLTS MISSING OR LOOSE.

CRACK AT THE CHAMBER BOTTOM NEAR BOTTOM WHALER 15'L X 1"H X 1"D

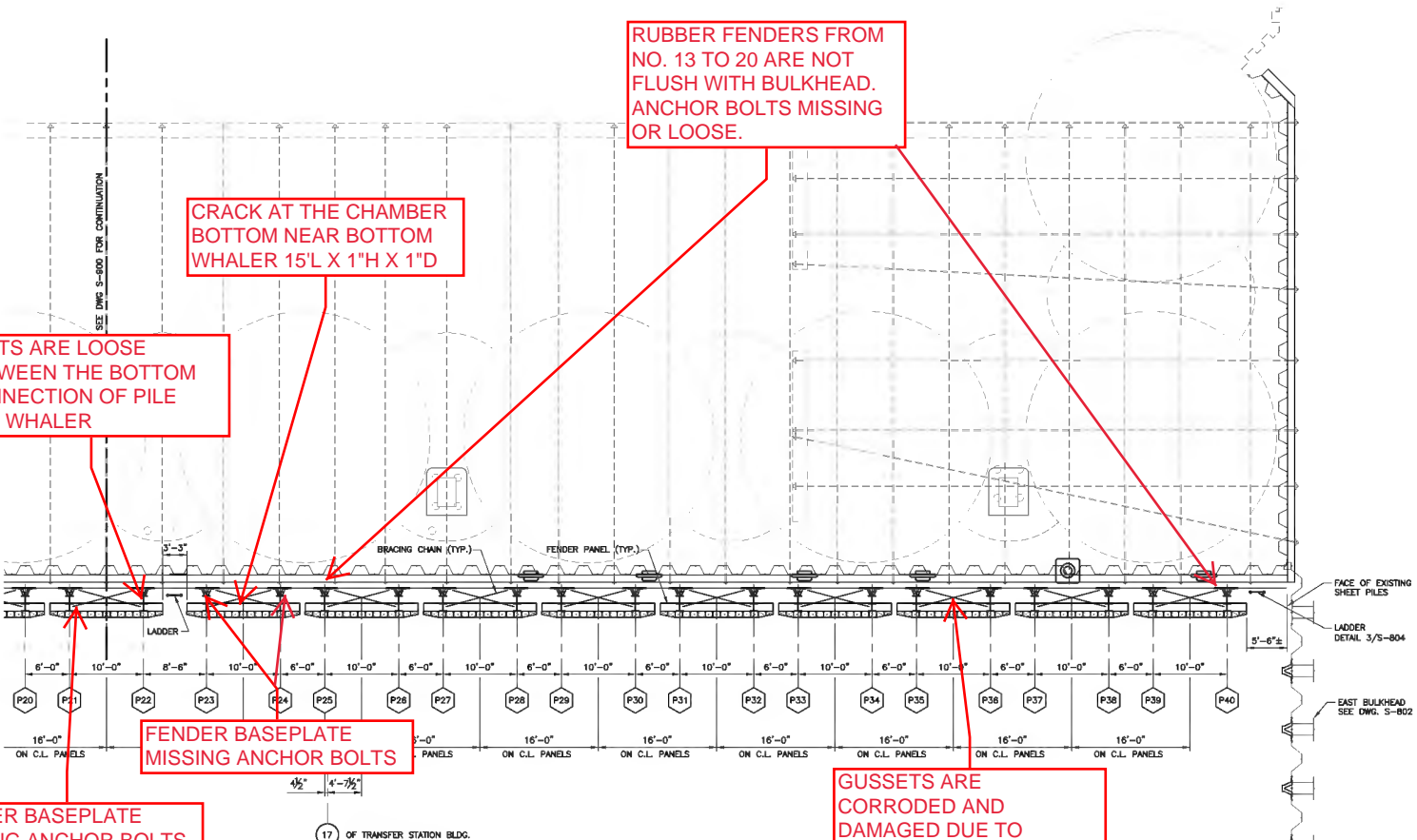
BOLTS ARE LOOSE BETWEEN THE BOTTOM CONNECTION OF PILE AND WHALER

FENDER BASEPLATE MISSING ANCHOR BOLTS

FENDER BASEPLATE MISSING ANCHOR BOLTS

GUSSETS ARE CORRODED AND DAMAGED DUE TO CHAINS GRINDING AGAINST THEM

SEE DWG S-800 FOR CONTINUATION



NORTH BULKHEAD - FENDER SYSTEM OVERALL  
SCALE 1/8"=1'-0"

FACE OF EXISTING SHEET PILES

LADDER DETAIL 3/5-804

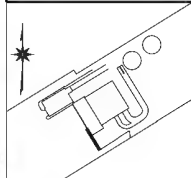
EAST BULKHEAD SEE DWG. S-802

TIMBER PILE DOLPHIN SEE DWG. S-905

0 8 16 FT  
1/8"=1'-0"

**WARNING**  
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DESIGNED: JK  
DRAWN: EF  
CHECKED: JK

APPROVED:

NO.	DATE	APPD	REVISION
10	JAN 2013	JK	CONFORMED DRAWING
1	SEPT 2012	JK	ADDENDUM NO 2
		APPD	

SCALE

**DDC**  
NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

FOR NEW YORK CITY  
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FILE NAME: DSNYS901\_10  
DWG: **S-901.10**  
SHEET NO.: 331 OF 708  
DATE: JUNE 2012

DSNYS901\_10.dwg 01-10-13 15:46 SAVET: hromaf DH